

What is claimed is:

1. A process for the selective recovery of linear nucleic acids contained in a liquid sample, comprising diluting said liquid sample, contacting the diluted sample with an ultrafiltration membrane, and subjecting said diluted sample to a pressure differential.

2. The process of claim 1, wherein said liquid sample is diluted to 1/3 to 1/5 its initial concentration.

3. The process of claim 1, wherein said dilution is carried out with a member selected from the group consisting of water, EDTA, trishydrochloride, a mixture of trishydrochloride and sodium EDTA, and trisethylenediaminetriacetic acid.

4. The process of claim 1, wherein said linear nucleic acid is double stranded DNA or RNA.

5. The process of claim 1, wherein said pressure differential is a constant pressure differential.

6. A process for the selective recovery of linear nucleic acids contained in a liquid sample, comprising providing an ultrafiltration membrane having an upstream and a downstream side, contacting said membrane with said liquid sample, and subjecting said liquid sample to a pressure differential having a pressure less than 25 inches Hg.

7. The process of claim 6, wherein said pressure is about 10 inches Hg.

8. The process of claim 6, wherein said pressure differential is a constant pressure differential.

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9. A process for the selective removal of contaminants in a liquid sample, comprising increasing the concentration of said contaminants by adding to said sample a member selected from the group consisting of nucleic acid condensing agents and monovalent cations, and contacting the sample with an ultrafiltration membrane, and subjecting said sample to a pressure differential.

10. The process of claim 9, wherein said nucleic acid condensing agents are selected from the group consisting of manganese, magnesium, hexaminecobalt chloride, spermine, spermadine, and mixtures thereof.

11 The process of claim 9, wherein said monovalent cations are selected from the group consisting of sodium, potassium and ammonium.

12. The process of claim 9, wherein said pressure differential is a constant pressure differential.

13. A process for the selective recovery of linear nucleic acids contained in a liquid sample, comprising diluting said liquid sample, contacting the diluted sample with an ultrafiltration membrane, and subjecting said diluted sample to a first pressure, followed by subjecting said diluted sample to a second pressure different from said first pressure.